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DEVELOPMENT OF SAFETY MANAGEMENT FOR CIVIL AVIATION OF CHINA

ABSTRACT

The mode of Chinese aviation safety management has experienced its transition from the experience-based management to the modern standardized management. In the past, safety management is essentially conducted through and relied on managers' experience with unitary administrative measures taken by the government. China is now forging ahead in its reform and opening-up undertakings; China's civil aviation industry is developing progressively; international contacts and exchanges are dramatically increasing; profound change in people's mindset is taking place. Now, our understanding of aviation safety management is getting more and more comprehensive and systematic and therefore more scientific. Remarkable achievements have been made in this respect especially after we adopted legal, economic and administrative approaches to conduct aviation safety management since 1990's.

MANAGE BY LAWS AND REGULATIONS

The legal system framework for China's civil aviation industry has been established based on the Civil Aviation Law of The People's Republic of China, which was promulgated in 1995. China has stepped up its development of regulation system with reference to regulations and standards made by ICAO. 35 regulations and standards on flight standard, airworthiness, air traffic control, airport and security have been made and amended in 1998. Over 100 technical regulations as well as considerable numbers of notices and management documents have been successively stipulated and promulgated by General Administration of Civil Aviation of China (CAAC) in the past several years. At the same time, CAAC has expedited the aviation enterprises on the establishment and improvement of their safety management systems and standards, which could be evidenced by the completion of relevant operational manuals and programs based on China's Civil Aviation Law and relevant regulations and standards stipulated by the government. For instance, the operational manuals of Air China, China Eastern and China Southern Airlines have been granted approvals from the government. By doing this, both the government and enterprises have laws to

abide by and regulations to follow with regard to safety management issues. China will complete its whole work on the making and promulgation of relevant regulations in the next few years.

STRENGTHEN SUPERVISION AND INSPECTION

We have also been strengthening the work on supervision and inspection in accordance with relevant law while devoting major efforts to amplifying the aviation safety regulations.

Supervision System and Quality Assurance System

First of all, our safety supervision system should be established and strengthened. According to Chinese situation, aviation safety system is supervised by government, enterprises themselves and the masses. We attach special emphasis on the supervision among front-line personnel themselves. Only in this way can we establish the good practice of observing regulations and standards and encouraging the masses to report malpractice and violations. Whenever a safety-related problem crops up, we won't just let it go without investigating the causes, identifying the liabilities, putting things right and taking disciplinary actions against the violators. By sticking to this principle of "not let it go", people's sense of responsibility could be strengthened regulations and systems could be observed to the letter. For the last couple of years, many airlines, benefited from the experience of western countries, have introduced operation quality assurance system, which has enabled them to conduct self supervision and self evaluation on safety operations. China Northern Airlines for example,

has taken the initiative in evaluating the safety performance of its pilots.

Safety Evaluation and Operation Certification

The government conducts safety evaluation and operation certification toward aviation enterprises in accordance with relevant regulations and standards. Up to now, the government has already completed safety evaluation to Zhongyuan Airlines, Shenzhen Airlines and two affiliated airlines under China Southern Airlines. In addition, the government has also carried out safety evaluations to Chongqing and Guilin airports. Operation certification has been conducted to Air China, China Eastern and China Southern Airlines; supervision and inspection will be continued on regular basis toward those certified airlines to check whether they have strictly implemented the approved operational manuals and programs. Supplementary operation certification will be done when those airlines modify their operation specification because of the introduction of new types of aircraft into their fleet, new air routes to operate and new airports to land. In these cases, additional operation certification will have to be conducted. It is estimated that the government will conduct operation certification to another ten airlines this year. The safety performance of several airlines, airports and air traffic service systems will be evaluated.

Administrative Approach

In addition to applying legal approach, administrative approach to manage safety. The government signs a Letter of Safety Responsibility each year respectively with airlines, airports and air traffic management departments and rewards those who honor the Letter and

penalize those who fail to live up to their commitment. The government has also established reporting system to encourage the reports on hidden safety dangers.

TO ENHANCE SAFETY STANDARD BY APPLYING NEW TECHNOLOGY AND NEW EQUIPMENT

To apply new technology and advance equipment is no doubt effective ways to enhance aviation safety standard. We have always been attaching great importance to introducing advanced aircraft, spare parts and appropriate maintenance equipment. Constant renewal of technologies and equipment used in communications, navigation, surveillance and air traffic service has been undergoing. A glaring example of this is demonstrated by the positive responses from the majority of Chinese airlines to install Quick Access Recorder (QAR) on scheduled flights at the request of the government. By the end of 1998, airlines in China (including China Northern, China Southern, Southwest, Xinjiang, Shenzhen, and Hainan Airlines etc.) have completed installation of QAR system; seven airlines have partially completed, they are: China Eastern, Air China, Northwest, Yunnan Airlines, etc. Besides, most of the enterprises have set up necessary ground stations and have finished training to relevant supervisors. From this year's on, QAR system will be operating on trial basis to monitor the flight performance and engine conditions. Through sampling and analysis of flight data generated from beyond-the-limit flight operations, we could come up with proposals for improvement on pilot training and maintenance work. Integrated Safety

Management Information System (ISMIS) is being set up by CAAC Aviation Safety Technology Center, with the intention to network the ISMIS of the government with airlines, airports and air traffic control departments, so that the information from various channels could be collected, sorted out, synthesized and analyzed and then they could be provided to both enterprises and governmental levels to help with their safety management.

TO ENHANCE THE QUALITY OF AVIATION STAFF BY EDUCATION AND TRAINING

Safety is no doubt the priority in aviation field. According to statistics, most of the aircraft accidents are caused by human-related factors. For the last 20 years, efforts made on reducing the number of aircraft accidents have been concentrated on enhancing the business and technical levels of aviation staff while at the same time emphasizing the build-up of people's sense of responsibility and professionalism.

Promote Technical Training and Profession Morality

Technical training has been mainly provided to pilots, maintenance technicians and air traffic controllers. Training to pilots is focused on handling stabilized approaching, and especially emergence response etc. and also on strengthening the coordination among crew members; training to maintenance technicians is targeted to improve the trouble-shooting capabilities through induction training, workshop practice, on-the-job training and study overseas; training to air traffic controllers emphasized on radar control and control under exceptional circumstances.

English language training is also a key part of the training. In order to provide timely and reliable ground support to flight crew, training to dispatchers is also highlighted. Promotion on profession morality is also underway. Staff members should always put safety first and be responsible on each flight for passenger's life and property and transporting passengers to their destinations safely and punctually. Only by sticking to relevant regulations, standards and working procedures and by serving passengers whole-heartedly and with high sense of responsibility can we satisfy them with first-class service.

The Role of Civil Aviation Education Organizations

The fact that China has increased the investment in aviation safety research has brought the role of civil aviation colleges and research institutes into full play. Those organizations could provide effective support to aviation safety by conducting analysis on various impact factors on aviation safety, such as psychological, cultural and material factors, etc. by bringing to light the basic laws governing aviation safety and summarizing experience and lessons drawn from previous practices. To provide training to different levels of management is essential in enhancing aviation personnel's quality. Civil Aviation Management Institute of China (CAMIC) shoulders major responsibility in this respect. For the last several years, CAMIC has been conducting training and education to managers working in Chinese aviation industry. The courses we provide include: Business Strategic Management; Human Resource Management; Leadership; Management Economics; Financial Management; International Trade and Finance;

Aviation Marketing; Airline Operation Management; Airport Operation Management; Air Law and Economic Law, etc. All these courses have provided the managers with the latest knowledge on modern aviation management and have helped to identify how to conduct scientific and standardized management to aviation safety.

During the process of corporate culture construction in China's civil aviation enterprises, CAMIC has helped them with the establishment of safety culture by incorporating the education on profession morality with safety culture construction within enterprises, which three aspects are included: establish safety-awareness among staff members; conscientiously observe regulations, standards and rules; everybody concerns with safety issues so that hidden safety dangers could be timely exposed and promptly corrected.

To build safety culture within enterprises can positively influence the employees to form good profession morality and thus lay a solid mass foundation to ensure aviation safety.

CONCLUSIONS

Law making on aviation safety; setting up of integrated rules and standard systems; implementation of management by laws and regulations; establishment of safety supervision systems; conduction of safety evaluation and operation certification for aviation enterprises in accordance with relevant laws and regulations; strengthening scientific research on aviation safety;

applying the latest technology and equipment; continuation of promoting people's quality by stressing education and training ---- all these are what we have been doing in a bid to ensure aviation safety. China's aviation safety management has witnessed remarkable progresses made with unremitting efforts. China is still a developing

country, and efforts made so far only represent a very beginning in the development of aviation safety field and there is still a long distance down the road. As we have already realized that there is no limit in the efforts made in achieving the goal of aviation safety, we should continue to draw experience from our counterparts around the world and make still further progress!